

# General and Comparative Endocrinology *mv*

An International Journal

Editors-in-Chief

AUBREY GORBMAN

J. N. BALL

*Published under the Auspices of the Division of Comparative  
Endocrinology of the American Society of Zoologists, and the  
European Society for Comparative Endocrinology*

Volume 53  
1984



ACADEMIC PRESS, INC.

San Diego    Orlando    San Francisco    New York    London  
Toronto    Montreal    Sydney    Tokyo    São Paulo

Copyright © 1984 by Academic Press, Inc.

All Rights Reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (21 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U.S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1984 articles are as shown on the article title pages; if no fee code appears on the title page, the fee code is the same as for current articles.

0016-6480/84 \$1.50

MADE IN THE UNITED STATES OF AMERICA

# Contents of Volume 53

NUMBER 1, JANUARY 1984

JACQUES BEAULATON, PATRICK PORCHERON, ROGER GRAS, AND PIERRE CASIER. Cytophysiological Correlations between Prothoracic Gland Activity and Hemolymph Ecdysteroid Concentrations in <i>Rhodnius prolixus</i> during the Fifth Larval Instar: Further Studies in Normal and Decapitated Larvae. . . . .	1
MICHIKO AGEMORI AND KATSUTOSHI ISHIKAWA. Binding of Progesterone with the Oviduct Cytosol Fraction of Estrogen-Primed Quail ( <i>Coturnix coturnix japonica</i> ). . . . .	17
EVELYNE LOPEZ, EVA-MARIA TISSERAND-JOCHEM, ANDRÉ EYQUEM, CHRISTIAN MILET, CARMEL HILLYARD, FRANCINE LALLIER, BERNADETTE VIDAL, AND IAIN MAC INTYRE. Immunocytochemical Detection in Eel Corpuscles of Stan- nius of a Mammalian Parathyroid-like Hormone. . . . .	28
HIROSHI KAWAUCHI, ICHIRO KAWAZOE, YASUSHI ADACHI, D. I. BUCKLEY, AND J. RAMACHANDRAN. Chemical and Biological Characterization of Salmon Melanocyte-Stimulating Hormones. . . . .	37
PATRICK PRUNET AND LOUIS-MARIE HOUEBINE. Purification and Biological Characterization of Chinook Salmon Prolactin. . . . .	49
C. H. TYNDALE-BISCOE AND L. A. HINDS. Seasonal Patterns of Circulating Pro- gesterone and Prolactin and Response to Bromocriptine in the Female Tammar <i>Macropus eugenii</i> . . . . .	58
W. LADOSKY AND S. L. CALIXTO. Influence of Estrogen and Progesterone on the Uterine Sensitivity <i>in Vitro</i> to Neuropituitary Hormones in the Brazilian Mar- supial <i>Didelphis albiventris</i> : Comparison with Lactating Animals. . . . .	69
E. GORDON GRAU, PATRICK PRUNET, THOMAS GROSS, RICHARD S. NISHIOKA, AND HOWARD A. BERN. Bioassay for Salmon Prolactin Using Hypophysectomized <i>Fundulus heteroclitus</i> . . . . .	78
T. F. DAVISON AND J. REA. Effect of Iodide, Methimazole, and Thyroxine on Thyroidal Accumulation of Radioiodide in Immature Domestic Fowl. . . . .	86
RICHARD T. WEIRICH AND F. M. ANNE McNABB. Nuclear Receptors for L-Triio- dothyronine in Quail Liver. . . . .	90
K. C. BRAHMA AND B. K. PATNAIK. Changes in Morphometric Parameters and the Characteristics of Collagen following Thyroxine and Thiourea Treatments in Young Male Garden Lizards. . . . .	100
OLIVIER KAH, PASCAL CHAMBOLLE, PIERRETTE DUBOURG, AND MAURICE P. DU- BOIS. Immunocytochemical Localization of Luteinizing Hormone-Releasing Hormone in the Brain of the Goldfish <i>Carassius auratus</i> . . . . .	107
JEAN-GUY LEHOUX, DIEGO BELLABARBA, AND CATHERINE BEAUDRY. Cortico- steroid Receptors in the Kidney of Chick Embryo. III. Nature, Properties, and Ontogeny of Aldosterone Receptor. . . . .	116
RICCARDO PIERANTONI, LUISA IELA, GIOVANNI DELRIO, AND RAKESH K. RASTOGI. Seasonal Plasma Sex Steroid Levels in the Female <i>Rana</i> <i>esculenta</i> . . . . .	126
DAVID R. BURT AND MARCEL A. AJAH. TRH Receptors in Fish. . . . .	135



HIROMICHI NAGASAWA, HIROSHI KATAOKA, YASUHIRO HORI, AKIRA ISOGAI, SABURO TAMURA, AKINORI SUZUKI, FU GUO, XIANGCHEN ZHONG, AKIRA MIZOGUCHI, MARIKO FUJISHITA, SUSUMU Y. TAKAHASHI, EIJI OHNISHI, AND HIRONORI ISHIZAKI. Isolation and Some Characterization of the Prothoracicotropic Hormone from <i>Bombyx mori</i> . . . . .	143
M. D'ISTRIA, R. PIERANTONI, F. CITARELLA, S. FASANO, C. VELLANO, A. PEYROT, AND G. DELRIO. The Effects of Thyroidectomy on Androgen and Prolactin Receptors in the Dorsal Skin and Caudal Fin of <i>Triturus cristatus carnifex</i> . . . . .	153
YUKIO HASEGAWA, MARK CIPOLLE, TAKUSHI X. WATANABE, TERUMI NAKAJIMA, HIROFUMI SOKABE, AND JOHN E. ZEHR. Chemical Structure of Angiotensin in the Turtle, <i>Pseudemys scripta</i> . . . . .	159
GENEVIEVE JOLIVET-JAUDET, MASAMI INOUE, KOJI TAKADA, AND SUSUMU ISHII. Circannual Changes in Plasma Aldosterone Levels in <i>Bufo japonicus formosus</i> . . . . .	163
ERRATUM	

Volume 51, Number 2, August 1983: Jean-Luc Servely, Moïse N'Guema Emame, Louis-Marie Houdebine, Jean Djiane, Claude Delouis, and Paul A. Kelly, "Comparative Measurement of the Lactogenic Activity of Ovine Placental Lactogen in Rabbit and Ewe Mammary Gland," pp. 255-262. . . . .	168
--	-----

NUMBER 2, FEBRUARY 1984

WILLIAM A. GERN, ELIZABETH WECHSLER, AND DAVID DUVAL. Characteristics and Non-rhythmicity of Retinal Hydroxyindole- <i>O</i> -methyltransferase Activity in Trout ( <i>Salmo gairdneri</i> ). . . . .	169
PRADIP CHAKRABORTI AND SAMIR BHATTACHARYA. Plasma Thyroxine Levels in Freshwater Perch: Influence of Season, Gonadotropins, and Gonadal Hormones. . . . .	179
ALISSA BOGOMOLNAYA AND ZVI YARON. Stimulation <i>in Vitro</i> of Estradiol Secretion by the Ovary of a Cichlid Fish, <i>Sarotherodon aureus</i> . . . . .	187
PEARL FOK AND J. G. EALES. Regulation of Plasma T <sub>3</sub> Levels in T <sub>4</sub> -Challenged Rainbow Trout, <i>Salmo gairdneri</i> . . . . .	197
HIROSHI UEDA, OSAMU HIROI, AKIHIKO HARA, KOHEI YAMAUCHI, AND YOSHITAKA NAGAHAMA. Changes in Serum Concentrations of Steroid Hormones, Thyroxine, and Vitellogenin during Spawning Migration of the Chum Salmon, <i>Oncorhynchus keta</i> . . . . .	203
W. P. M. GERAERTS, P. BUMA, AND TH. M. HOGENES. Isolation of Neurosecretory Granules from the Neurohaemal Areas of Peptidergic Systems of <i>Lymnaea stagnalis</i> , with Special Reference to the Ovulation Hormone-Producing Caudodorsal Cells. . . . .	212
ELIANE GUILVARD, MAX DE REGGI, AND JEAN-ANTOINE RIOUX. Changes in Ecdysteroid and Juvenile Hormone Titters Correlated to the Initiation of Vitellogenesis in Two <i>Aedes</i> Species (Diptera, Culicidae). . . . .	218
M. PINES, A. BAR, AND S. HURWITZ. Isolation and Purification of Avian Parathyroid Hormone Using High Performance Liquid Chromatography, and Some of Its Properties. . . . .	224

Zaïna Amirat and Roger Brudieux. Seasonal Changes in the Metabolic Clearance Rate of Cortisol in the Adult Male Sand Rat (*Psammomys obesus*). . . . . 232

E. Elias, E. Bedrak, and R. Yagil. Peripheral Blood Levels of Progesterone in Female Camels during Various Reproductive Stages. . . . . 235

F. Treilhou-Lahille, A. Jullienne, M. Aziz, A. Beaumont, and M. S. Moukhtar. Ultrastructural Localization of Immunoreactive Calcitonin in the Two Cell Types of the Ultimobranchial Gland of the Common Toad (*Bufo bufo* L.). . . . . 241

A. D. Pickering. Cortisol-Induced Lymphocytopenia in Brown Trout, *Salmo trutta* L. . . . . 252

J. Rzasá. The Effect of Arginine Vasotocin on Prostaglandin Production of the Hen Uterus. . . . . 260

M. Zuber-Vogeli et J. Doerr-Schott. Localisation par immunofluorescence de différents principes hormonaux de l'hypophyse de *Nectophrynoïdes occidentalis* Angel, au cours du développement embryonnaire. . . . . 264

Mary L. Wright, Dianne M. Goldrick, Lori J. Adamowicz, Nancy K. Hensen, Jody L. Van Wagoner, and Kathleen M. Loneragan. Rhythms of Cell Proliferation in the Hindlimb Epidermis of Control and Thyroxine-Treated *Rana pipiens* Tadpoles. . . . . 272

John C. Wingfield, Kathleen S. Matt, and Donald S. Farner. Physiologic Properties of Steroid Hormone-Binding Proteins in Avian Blood. . . . . 281

J. R. Millam, W. H. Burke, and M. E. El Halawani. Release of Gonadotropin-Releasing Hormone from the Japanese Quail Hypothalamus *in Vitro*. . . . . 293

Donald E. Spiers and Robert K. Ringer. Thyroid Hormone Changes in the Bobwhite (*Colinus virginianus*) after Hatching. . . . . 302

Stanley D. Yokota and Stanley S. Hillman. Adrenergic Control of the Anuran Cutaneous Hydroosmotic Response. . . . . 309

Tsuyoshi Ogasawara and Tetsuya Hirano. Effects of Prolactin and Environmental Calcium on Osmotic Water Permeability of the Gills in the Eel, *Anguilla japonica*. . . . . 315

NOTE

Robert E. Broughton and Roger deRoos. Temporal Effects of Infused Corticosterone and Aldosterone on Plasma Glucose Levels in the American Bullfrog (*Rana catesbeiana*). . . . . 325

BOOK REVIEW

John C. Wingfield. *Aspects of Avian Endocrinology: Practical and Theoretical Implications*. Edited by C. G. Scanes, M. A. Ottinger, A. D. Kenny, J. Balthazart, J. Cronshaw, and I. Chester-Jones. . . . . 331

NUMBER 3, MARCH 1984

Masumi Nozaki and Aubrey Gorbman. Distribution of Immunoreactive Sites for Several Components of Pro-opiocortin in the Pituitary and Brain of Adult Lampreys, *Petromyzon marinus* and *Entosphenus tridentatus*. . . . . 335

Thomas Sandor, John A. DiBattista, and Afzal Z. Mehdi. Glucocorticoid Receptors in the Gill Tissue of Fish. . . . . 353



V. M. PETROVIĆ, VERA JANIĆ-SIBALIĆ, GORDANA CVJIĆ, MAGDALEINE MAZEAUD, AND J. ROFFI. Adrenal Dopamine- $\beta$ -hydroxylase Activity in the Ground Squirrel <i>Citellus citellus</i> —Effect of Hibernation, Arousal, and Continuous Light. . . . .	365
A. K. PATI AND J. P. THAPLIYAL. Erythropoietin, Testosterone, and Thyroxine in the Erythropoietic Response of the Snake, <i>Xenochrophis piscator</i> . . . . .	370
M. PANCHARATNA AND S. K. SAIDAPUR. The Luteotrophic Effect of Homoplastic Pituitary Pars Distalis Homogenate, PMSG, and HCG on the Corpora Lutea of the Hypophysectomized Frog, <i>Rana cyanophlyctis</i> (SCHN). . . . .	375
AKIYOSHI TAKAHASHI, HIROSHI KAWAUCHI, TORAI CHI MOURI, AND ATSUSHI SASAKI. Chemical and Immunological Characterization of Salmon Endorphins. . . . .	381
BERNARD W. INCE AND STEVE T. C. SO. Differential Secretion of Glucagon-like and Somatostatin-like Immunoreactivity from the Perfused Eel Pancreas in Response to D-Glucose. . . . .	389
COLIN G. SCANES AND A. L. JOHNSON. Failure of Castration to Prevent the Pre-pubescent Decline in the Circulating Concentration of Growth Hormone in the Domestic Fowl. . . . .	398
K. A. BEGUM, H. N. BEHERA, AND B. K. PATNAIK. Thyroid Hormones and Carbohydrate Metabolism of Brain in the Teleost, <i>Channa punctatus</i> . I. Effect of $T_4$ and Thiourea on Succinic Dehydrogenase (SDH) Activity and Protein Content. . . . .	402
ANN WHITE AND THELMA C. FLETCHER. Radioimmunoassay of Serum Cortisol in the Plaice ( <i>Pleuronectes platessa</i> L.). . . . .	410
MURRAY D. WIEGAND AND DAVID R. IDLER. Stimulation of Lipogenesis in the Rainbow Trout Ovary by Carbohydrate-Rich Gonadotropin <i>in Vitro</i> . . . . .	418
ABSTRACTS OF PAPERS READ AT THE TWELFTH CONFERENCE OF EUROPEAN COMPARATIVE ENDOCRINOLOGISTS, AUGUST 1–5, 1983, SHEFFIELD, ENGLAND . . . . .	427
ANNOUNCEMENT . . . . .	500
AUTHOR INDEX FOR VOLUME 53 . . . . .	501

The Subject Index for Volume 53 will appear in the December 1984 issue as part of a cumulative index for the year 1984.